

TUM Sustainable Futures Strategy 2030





Through responsibility, talent, scientific excellence and innovative strength, we are shaping a sustainable transformation of societies to ensure health and prosperity in harmony with nature and the environment for future generations.

Our Sustainability Vision



Foreword

Dear members of our TUM family,

Humanity has made incredible progress, including in health, food production and safety, energy and infrastructure, as well as transportation and effective communication over the greatest distances. If you imagine the entire history of the Earth shortened to just one day, the first humans existed only for one minute and 17 seconds and we – modern homo sapiens – only for four seconds before the end of the day. The Anthropocene has now been ongoing for four milliseconds. Within this mere blink of an eye in the evolution of our planet, we have already contributed to rapidly increasing global warming and the destruction of entire ecosystems with our carbon- and resource-intensive economic models. And we continue to do so at an increasing rate.

We are paying for our current economic practices and consumption habits by damaging nature and losing biodiversity in the air, on earth and under water. Rapid climate and environmental change are shaking the foundations not only of our quality of life, but of

human existence itself. And these changes are exacerbating the systemic inequalities on our planet. Even worse, those who are the least responsible, and who have also benefited the least from the aforementioned developments, suffer the most from the undesirable effects of our actions. If we do not want to destroy our own future, we must act – now!

In my inaugural address as President, I emphasized that shaping our society sustainably requires, more than ever, the courage to change at the Technical University of Munich (TUM). We need a new sense of responsibility in our university community to act sustainably. As an entrepreneurial university, we are collectively challenged to develop future-proof competencies, effective approaches to solutions, scalable innovations and powerful alliances to enable our society and global community to achieve ambitious sustainability goals and become more resilient. At the same time, we must take responsibility as an institution and contribute with sustainable actions to stop exceeding planetary limits.

As one of the leading international research and educational institutions, TUM has recognized the importance of sustainability early on. Resource efficiency and energy conservation have always determined developments, especially in the technical disciplines, for example in communications and computer technology, electronics, mechanical and vehicle engineering, or materials science. Our leading competencies in the key areas of digitalization form an important prerequisite for this in research and teaching.

In the recent past, TUM has launched numerous new initiatives for a sustainable future, taken measures and implemented projects. The TUM Campus Straubing for Biotechnology and Sustainability is in the process of further expansion. Our students have established the Green Offices at the Straubing and Weihenstephan campuses and invite the university community to participate in a green campus design.

But this is not enough – in our responsibility towards the future of humanity, society and nature, we can and will do more! Just because our attention is focused on addressing the global COVID 19 pandemic and the energy crisis, we must not give in to the deceptive comfort of

downgrading our commitments to the sustainability of our actions or even postponing them to a distant future. On the contrary, we must seize the opportunity now to accelerate our progress for sustainability and climate protection. That is why we are taking on this historic task with the TUM SUSTAINABLE FUTURES STRATEGY 2030, which we developed together with TUM students and employees in a participatory process. This strategy demonstrates our bold commitment to sustainable change. However, it is also to be understood as a document to be continuously updated, because in times of change we must remain agile and be prepared to adapt to new challenges at any time.

The TUM SUSTAINABLE FUTURES STRATEGY 2030 marks a historic step for TUM, with which we aim to contribute to solving one of the greatest challenges in human history. We are pooling our valuable resources and making sustainability an integral guiding principle of our agenda in the core areas of Research, Education and Lifelong Learning, Entrepreneurship and Innovation, Campus Operations and Resource Management, Governance and Community, and Communication and Global Engagement. This requires all of our innovative strength,



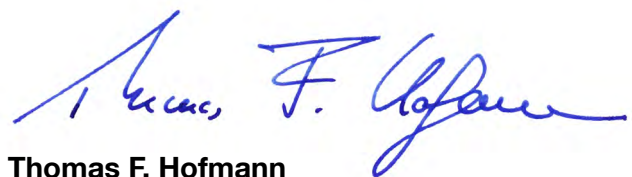
as we need to reconcile new technologies, processes, products and models of the circular economy, as well as economic goals, with ecological requirements as well as social and societal aspects. To achieve this, we must not leave the game to the defenders of yesterday, the many referees or irresponsible commentators, but rather we must decisively mobilize the next generations of our students as the leaders of change for a sustainable future. We must empower them with the expertise, but also the necessary sensitivity and new skills, to make informed decisions, persuade others, develop effective policies for a sustainable future, and powerfully put them into practice through scalable innovations. In joint discourse with students, employees and society, we want to shape the future sustainably.

Since 1868, TUM has repeatedly demonstrated its willingness to change and its ability to innovate, thus making decisive contributions to Bavaria's development from an agricultural state to the economically strongest tech region in Europe. Today, with the TUM SUSTAINABLE FUTURES STRATEGY 2030, we want to powerfully support the Bavarian state government in achieving its ambitious goals: Bavaria is to

achieve climate neutrality by 2040, the ministries by 2023 and the whole state administration by 2030.

In doing so, I am convinced that the TUM SUSTAINABLE FUTURES STRATEGY 2030 will prove to be a catalyst for the enormous changes that lie ahead in our common pursuit of sustainable development, taking into account ecological limits, economic stability and social justice, and which must come to ensure the cohesion and resilience of our society.

I look forward to working with the extended TUM family to achieve these ambitious goals and to sharing with you the progress and successes that we want our future generations to experience with confidence.



Thomas F. Hofmann
President



Achievements and successes we build upon!

With foresight, TUM has focused on shaping a sustainable future at an early stage through strategic research initiatives. One example is the TUM Campus Straubing for Biotechnology and Sustainability with its integrative research and teaching approaches around renewable resources, biotechnology and bioeconomy. Our TUM School of Life Sciences at the Weihenstephan Campus researches and teaches across scales from molecular to cellular systems of plant and animal organisms to sustainable, ecosystem-wide land use strategies. Through the interplay of innovative concepts in high-tech agriculture (digital, vertical, cellular), intelligent bioprocess and process engineering, and excellent nutritional medicine skills, we create the basis for the sustainable production of healthy, tasty and affordable food. This is complemented by our expertise in synthetic biotechnology at the TUM Wacker Institute for Industrial Biotechnology at the Garching campus, which focuses on the production of chemical and pharmaceutical basic and fine chemicals from renewable raw materials, and the algae pilot plant in Ottobrunn-Taufkirchen, which is unique in the world and allows algae process development with climate simulation.

At the Environmental Research Station Schneefernerhaus, we work together with other research partners on central issues of environmental and climate research as well as the consequences of changes in alpine permafrost for mountains, slopes and the inhabited environment. Also in the midst of the Berchtesgaden Alps, we are researching the alpine ecosystem in the context of climate change at the Research Station Friedrich N. Schwarz and testing new forms of science teaching in schools together with the Schülerforschungszentrum Berchtesgadener Land.





With the help of satellite technologies and artificial intelligence, we are observing the development of our blue planet from above with unprecedented precision in the future cluster „Artificial Intelligence for Earth Observation“. We are investigating the CO₂ absorption capacity of the Brazilian rainforest in the international long-term project AmazonFACE, researching the catalytic conversion of CO₂ into methane and its use for the German natural gas grid or for the synthesis of recyclable materials, and developing innovative strategies for sustainable planning and construction, where considerable CO₂ savings are forecast.

A lead project for renewable energy sources is the Geothermal Alliance Bavaria under the leadership of TUM. With the Cluster of Excellence e-Conversion, we are researching ultra-fast energy conversion processes in various technologies – from photo-voltaics to (photo)electrocatalysis to battery technology – and creating the foundations for a stable, efficient and sustainable energy supply. To this end, we support TUM spin-offs such as the company TWAICE, which helps to optimize the development, application and testing of lithium-ion batteries by means of digital twins. Under the coordination of TUM, to give another example, the international future lab „REDEFINE Hydrogen Economy“, the EU-funded project EReTech (Electrified Reaction Technology) and our TUM start-up SYPOX are powerfully advancing the development of a high-performance, sustainable green hydrogen economy. Within the TUM SEED Center (sustainable energies, entrepreneurship and development), we research, teach and innovate on sustainable and affordable energy solutions for the global South. In the TUM Mission Network Circular Economy, we have pooled our resources across TUM for the realization of a sustainable circular economy. At the TUM Institute for Advanced Study (TUM-IAS), 32 of the 69 IAS Focus Groups are currently working on scientific projects directly related to the United Nations Sustainable Development Goals.

We are the only university in the world to have developed ready-to-drive electric vehicles with different usage concepts for three continents in different climatic zones and have already launched the all-electric van aCar on the market with the spin-off EVUM Motors. Together with more than 50 partners from science, business, the public sector and citizens, we are



researching urban mobility concepts in the Munich Future Cluster MCube and are gradually putting them into practice. This is supported by the European Knowledge and Innovation Community EIT Urban Mobility and our teaching and research activities in Singapore (TUM Asia, TUM CREATE).

Since 2016, our TUM Senior Excellence Faculty has been organizing annual interdisciplinary conferences as part of the TUM Forum Sustainability, with the participation of academia, business, and decision-makers from public

administration. The Faculty condenses the insights gained, such as on the topic of the „Circular Economy“, into recommendations for academia, business, and the broader public.

Especially with a view to the realization of sustainable solutions, we are vigorously advancing digitalization across the university. Therefore, we are researching basic principles, further developing methods and integrating them into potential application domains at the Munich Data Science Institute (MDSI), the Munich Institute of Robotics and Machine Intelligence (MIRMI), the Munich Institute of Biomedical Engineering (MIBE) and the Munich Institute of Integrated Materials, Energy and Process Engineering (MEP). And to reduce the ICT footprint, we are working to minimize the current drawbacks of digitalization, for example in the area of information and communication technologies, and to reduce the high energy consumption of „always on“ technologies as well as the consumption of precious material resources.



Many of these research topics flow directly into university teaching and education programs. TUM was a German pioneer back in 2001 and 2006 with the international MSc program in Sustainable Resource Management and the highly sought-after BSc and MSc programs in Environmental Engineering. More recently, we have introduced innovative degree programs in Bioeconomy and Sustainable Management and Technology at the TUM Campus Straubing. At the TUM Institute for LifeLong Learning, we have begun to offer certificate programs with a focus on sustainability for professionals and executives, e.g. ecological construction, sustainable management and technology. In the Collider project of the European university initiative EuroTeQ, we develop concrete solutions to sustainability challenges in a co-creation process with students, researchers and business partners (e.g. „Leave no waste behind“). As a member of the SDG Campus Network, TUM teaches specific sustainability and problem-solving skills through teaching

formats on the United Nations Sustainable Development Goals. And our students have established Green Offices at the Straubing and Weihenstephan campuses and invite the university community to participate in a green campus design.

These successes suggest that, based on its reform-proven credentials, TUM has the potential to go beyond research activities to help shape a sustainable future at an international level through powerful initiatives in the core areas of Education and Lifelong Learning, Entrepreneurship and Innovation, Campus Operations and Resource Management, Governance and Community, and Communication and Global Engagement. To this end, the TUM SUSTAINABLE FUTURES STRATEGY 2030 must now be consistently implemented and courageously further developed.

Executive summary

Through responsibility, talent, scientific excellence and innovative strength, the Technical University of Munich (TUM) is shaping a sustainable transformation of societies to ensure health and prosperity in harmony with nature and the environment for future generations. Therefore, TUM pools intellectual and financial resources and, with the TUM SUSTAINABLE FUTURES STRATEGY 2030, makes sustainability and environmental protection integral guiding principles of its agenda in the following action fields.

Research



Excellent research for a sustainable future. We strongly encourage and support research activities that contribute to the sustainable transformation of society and climate protection, and specifically promote digitalization and the scaling of developed solutions, taking into account ecological, political and social implications. To this end, we combine the drive and entrepreneurial spirit of our students and employees with an energy and resource-saving way of working. We promote inter- and transdisciplinary as well as international cooperation with partners from science, business, politics and society in order to strengthen the impact and innovative power of TUM.

Examples of measures: (i) Promote interdisciplinary research networks with a sustainability focus; (ii) TUM-IAS Fellowships with a sustainability / climate protection focus; (iii) Expand strategic alliances with partners from science, industry, politics and society; (iv) Further training opportunities for young scientists for sustainable scientific work; (v) Create a political / regulatory framework and social acceptance for the practical implementation of sustainable processes, technologies, products and services.

Education and Lifelong Learning



Excellent education for responsible talents for change. We motivate and encourage students and employees as well as alumnae/alumni and external professionals and executives to develop their own understanding of sustainability and enable them to use their acquired skills and knowledge resources in an active and formative role, based on data and evidence, with a sense of responsibility for the sustainable transformation of society. To this end, we create a sustainable teaching and learning environment and qualify our lecturers through further training courses on sustainability in teaching.

Examples of measures: (i) Ensure acquisition of subject-specific sustainability and digitalization competencies in all degree programs; (ii) Focus on overarching sustainability and digitalization competencies in teaching and continuing education formats (e.g. project weeks, plug-in modules, TUM Junge Akademie, TUM Sustainable Living Labs, professional certificate programs); (iii) Lifelong learning programs on sustainability, climate protection, and resource efficiency for faculty and staff (ProLehre, TUM IL³); (iv) Expand the range of courses with explicit sustainability relevance in continuing education programs for external professionals and executives (TUM IL³).

Entrepreneurship and Innovation



Excellent founders for sustainable impact. We support and empower our founders to use their entrepreneurial spirit to accelerate sustainable transformation and to combine economic success with ecological and social responsibility through innovative technologies, services and business models. We contribute to the adaptation of political and regulatory frameworks as well as to the increase of social acceptance of sustainable processes, systems, technologies, products and services. Together with UnternehmerTUM and business partners, we promote successful market implementation and scaling as well as the acquisition of capital.

Examples of measures: (i) Raise awareness for sustainable innovations and focus entrepreneurship activities on sustainable start-up initiatives (TUM Entrepreneurship Day, TUM Sustainability Day, TUM Venture Lab GreenTech Award); (ii) Establish the TUM Venture Lab Sustainability - Circular Economy; (iii) Qualify employees and found teams on sustainable and social entrepreneurship (CareerDesign@TUM, TUM IL³); (iv) Establish a professorship for Sustainable Entrepreneurship and Scalability; (v) TUM Women Entrepreneurs Program.

Campus Operations and Resource Management



Learning, teaching, researching and working in a sustainable environment. Through transformation by our own example, we pursue the goal of making TUM a role model for shaping a sustainable and resilient society with responsible and data-based campus operations and resource management. Therefore, we define our limits of growth and work within the framework of a sustainable human resources and financial policy based on resource-efficient use of funds and effective risk management. We create a healthy and digitally supported working environment with high appreciation for the diversity of our staff and students. We empower members of the TUM family to make their own contributions to a sustainable future and integrate new scientific findings and technical solutions at our TUM campuses. This is how we meet our challenges in greenhouse gas emissions, mobility, energy and resource management, biodiversity, equality, diversity, inclusion, and ensuring healthy study and working conditions.

Examples of measures: (i) Greenhouse gas balance and climate action plan; (ii) Identify / utilize reduction potentials for greenhouse gas emissions, resource consumption and waste generation; (iii) Digitalization (administrative processes, digital first publishing); (iv) Thinking Green communication initiative and develop a sustainable travel policy with measures for emission-reduced travel of employees and students; (v) Establish a sustainable mobility management initiative; (vi) Improve the quality of stay on campus and increase biodiversity-promoting green spaces; (vii) Prioritize sustainability in construction and renovation projects; (viii) Promote flexible working time models, mobile work as well as professional development and raise awareness of a culture of appreciation, respect and responsibility; (ix) Increase the medium / long-term filling of key positions; (x) Promote equality, diversity, inclusion, accessibility, physical and mental health; (xi) Monitor the satisfaction and perceived appreciation culture of staff and students as a basis for a healthy development of the university community.

Governance and Community



Responsible leadership and collaborative design. Supported by a shared vision for sustainability and climate action and by the motivation and empowerment of students and employees at all levels of the university, we enable the university community to shape the sustainable transformation. We want to motivate members of the university community to participate: on the one hand by strategically anchoring the sustainability strategy in the TUM Board of Management, and on the other hand through participatory design processes with clear responsibilities. By means of university-wide communication and engagement formats, challenges are addressed bottom-up and progress in all action fields of the strategy becomes transparent.

Examples of measures: (i) Anchor the topic of sustainability at the management level (TUM Board of Management, Executive Boards of the TUM Schools); (ii) Sustainability-oriented appointment strategy; (iii) TUM Sustainability Board to monitor the sustainability strategy; (iv) TUM Sustainability Office as the central coordination unit for strategy implementation, monitoring of measures and reporting; (v) Effectively use internal communication channels and formats (e.g. TUM Sustainability Day); (vi) Support sustainability-oriented formats for students (TUMKolleg, Schülerforschungszentrum), student initiatives (Sustainability Student Initiatives Forum) and the TUM Senior Excellence Faculty (TUM Forum Sustainability); (vii) Establish a TUM Sustainable Communities Network of ambassadors (alumnae/alumni) and multipliers; (viii) Expand the TUM Green Offices; (ix) Develop a TUM Sustainability Dashboard; (x) Awards: TUM Sustainability Award, TUM Venture Labs GreenTech Award, TUM Sustainability Champion.



Communication and Global Engagement



Open university and community impact: Regional. National. International. Students, employees, alumnae/ alumni, partners from science and industry, political decision-makers and the many people in the regions where TUM and its locations are firmly rooted all have an interest in TUM's contributions to shaping a sustainable transformation of society. Through transparent and self-critical communication, we want to create awareness and take a proactive role in this transformation. We are part of a global community that aligns its actions with the United Nations Sustainable Development Goals and is aware of the specific challenges and opportunities of its own scientific and social environment. To increase our own impact, we combine our research and teaching agenda with entrepreneurial drive to combat climate change and pollution, poverty and inequality, and lack of access to healthcare and education. We are intensifying our collaboration with partners in the Global South to jointly develop solutions and implement best practices.

Examples of measures: (i) Implement an international communication strategy for sustainability issues; (ii) Introduce public engagement formats with a focus on sustainability involving external partners (TUM Sustainability Day, TUM Sustainable Community Network); (iii) Empower external decision-makers for evidence-based sustainable decisions (TUM Think Tank, TUM IL³); (iv) Strategically expand partnerships in the Global South through involvement of TUM Liaison Offices.



Along these six action fields, ambitious goals were set using a participatory approach and concrete measures were developed jointly. Their impact will be measured by using suitable success indicators to control the progress of TUM's sustainability transformation.

The implementation and vigorous further development of the strategy is accompanied by a continuously updated TUM Sustainability Dashboard and, every two years, by university-wide reporting (TUM Sustainable Futures Report).



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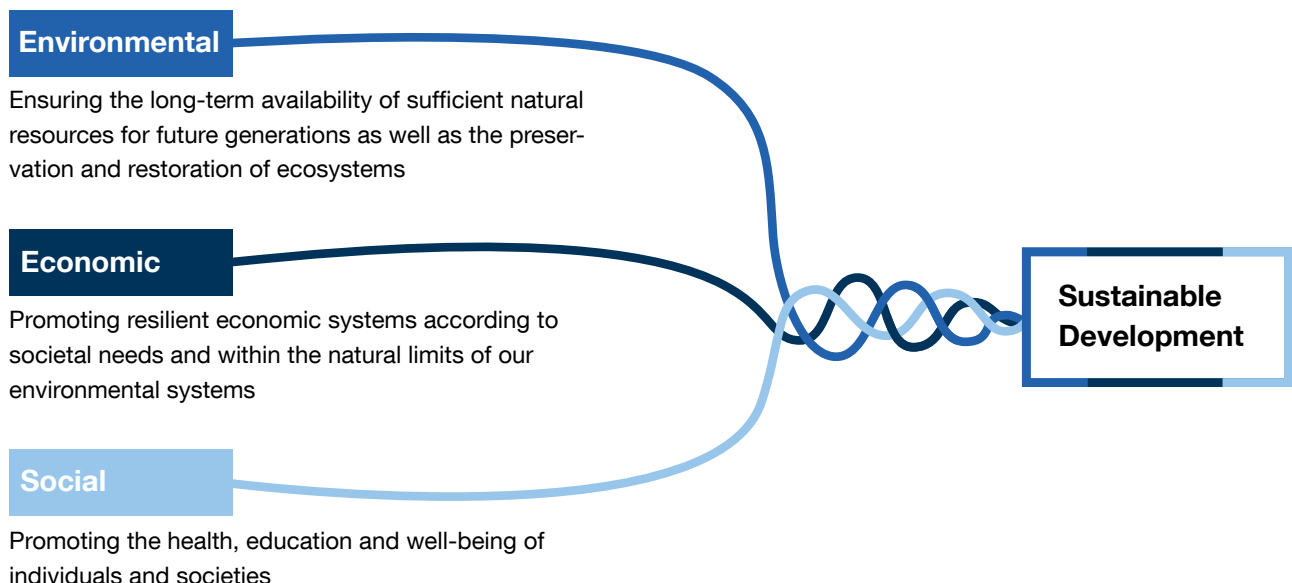
Our understanding of sustainability

As an entrepreneurial university, the Technical University of Munich (TUM) faces up to its social obligation to achieve climate neutrality as quickly as possible and thus to make its own contribution to planetary health by setting a good example. This supports the Federal Republic of Germany in fulfilling its commitment to comply with contractually defined climate targets and the Free State of Bavaria in achieving the targeted climate neutrality through all our competencies.

The understanding of sustainable development underlying the TUM SUSTAINABLE FUTURES STRATEGY 2030 follows the definition of the Brundtland Commission (UN Report “Our Common Future”, 1987). This essentially means satisfying the needs of the present generation, without endangering the possibilities of future generations to satisfy their own needs. In the interest of present and future generations, this understanding of sustainability aims above all at the long-term preservation of ecological,

social and economic resources within a limited overall system and includes the demand for inter- and intragenerational justice in a global context. Thus, scientific and economic performance, effective environmental protection and social responsibility are inextricably linked. Decision-making for the future must consider this in an integrative way to achieve a sustainable development.

Under constantly changing framework conditions, TUM views sustainable development as a context-dependent and temporally changing guiding principle that is aligned with the United Nations Sustainable Development Goals as well as the specific challenges and opportunities of our scientific and societal environment. The TUM SUSTAINABLE FUTURES STRATEGY 2030 draws its strength from inter- and transdisciplinary approaches, evidence-based decision-making, and continuous reflection and re-evaluation of goals and measures.





The TUM SUSTAINABLE FUTURES STRATEGY 2030 takes up our responsibility for “progress of innovation for people, nature and society” from the TUM mission statement and powerfully expresses it in our vision and mission for sustainable development.

Our sustainability vision

Through responsibility, talent, scientific excellence and innovative strength, we are shaping a sustainable transformation of societies to ensure health and prosperity in harmony with nature and the environment for future generations.

Our sustainability mission

We are a globally connected, living laboratory for transformative action and make sustainable development central to our identity and activities.

We therefore

1. empower students, employees, researchers, teachers, alumnae/alumni, professionals and executives and connect them with partners from science, business, politics and society to develop transformative solutions for a sustainable future;
2. support research that improves understanding of the impact of our actions on the sustainable development of society

and that reduces the environmental footprint of systems, processes and products through responsible and scalable innovations;

3. support founders in using their entrepreneurial talents to accelerate sustainable transformation;
4. drive forward the adaptation of political and regulatory frameworks for sustainable solutions and increase their social acceptance;
5. make TUM a role model for the design of sustainable and resilient societies through transformation by our own example.

Strategy development, basic principles and action fields

With the TUM SUSTAINABLE FUTURES STRATEGY 2030, TUM is committed to sustainable action in all its performance dimensions and is taking on the joint task of developing into a climate-neutral university. We have identified our

action fields in a participatory process together with various staff groups and students at TUM, prioritized urgent matters, set ambitious goals, developed concrete measures, and defined success indicators.

Our path towards the strategy

In order to achieve the broadest possible impact of the sustainable transformation of TUM in the university community, the process of designing the TUM SUSTAINABLE FUTURES STRATEGY 2030 was carried out in a participatory approach under the coordination of the TUM Sustainability Office, which was established in 2020. The various staff groups and our students were actively involved in

numerous collections of information and data, coordination meetings, surveys, information events and workshops. Besides that, we of course included the specialist expertise and experience of our researchers, in order to ensure that a credible roadmap for the sustainable transformation can succeed within the scope of our resources.



Framework

As a first step, a common understanding of sustainability and a framework for the further transformation process at TUM were developed. This included defining a target image with a vision and mission for sustainability, and defining target groups and the scope of application of the strategy, in each case taking into account external requirements such as frameworks and legal regulations. The results were adopted and published as the TUM Sustainability Statement¹ by the TUM Board of Management.

Materiality analysis

The second step involved setting priorities and focusing the content necessary for effective implementation of the strategy. For this purpose, individual action fields were developed, a comprehensive overview of possible sustainability topics and frameworks was compiled and an assessment methodology was developed. This materiality analysis was carried out in the context of a workshop and various group votes to develop focal points and basic principles in line with the SDGs.

¹ <https://mediatum.ub.tum.de/1652137>

Facts and figures on the TUM SUSTAINABLE FUTURES STRATEGY 2030 and the process

18
goals

101
measures

60
indicators

15

months of participatory process and work on content and network

2 surveys with

3,160

participants

7 workshops and info events with almost

200

participants

Strategy development: TUM SUSTAINABLE FUTURES STRATEGY 2030

The strategy development was based on the results of two online surveys involving all higher-level organizational units and numerous TUM employees, supplemented by workshops and discussions with established experts. During this process, topics were identified in which both the expectations of our university community and the contribution potential of TUM are high. After that, goals were set for each action field on the SDGs, measures for achieving the goals were developed, and indicators for measuring success were defined. The strategy document was finally agreed upon by the university's governing bodies and approved by the TUM Board of Management.

Reporting: TUM Sustainability Dashboard, TUM Sustainable Futures Report

To develop its full impact, the implementation of the TUM SUSTAINABLE FUTURES STRATEGY 2030 is regularly accompanied by transparent reporting. The TUM Sustainability Office, with the involvement of all relevant stakeholders, is developing a TUM Sustainability Dashboard that makes sustainability-relevant data available online, as well as a TUM Sustainable Futures Report every two years as a basis for necessary adjustments and dynamic further development of the strategy. Using suitable indicators, the impact of the measures introduced, the degree of achievement of the goals and the progress of the sustainability transformation of TUM becomes measurable and controllable. As a basis for the regular publication of the TUM Sustainable Futures Report, a reporting concept is being developed based on established frameworks, efficient reporting processes are being implemented, and the necessary data sets are being collected.

Our action fields

With the aim of setting priorities and focusing the content of the TUM SUSTAINABLE FUTURES STRATEGY 2030, six interlinked **action fields** were identified: **Research, Education and Lifelong Learning, Entrepreneurship and Innovation, Campus Operations and Resource Management, Governance and Community, Communication and Global Engagement**. In this way, we address our legally defined areas of responsibility and our self-image as a responsibly acting, entrepreneurial university and, in the sense of a global marketplace of knowledge, make important contributions to the international exchange of best practices for sustainable development. As an accelerator for sustainable development across all action fields, **digitalization** is being promoted throughout the university.

As structuring elements of the overall strategy, each action field is underpinned by concrete **goals** and **measures** to be implemented in the short, medium and long term². We have also begun to develop **indicators** for professional monitoring of the success of the measures and a transparent presentation of the respective progress.

² The measures should be implemented within two years (short-term), within two to five years (medium-term) or beyond 2030 (long-term) at the latest.



Research

Excellent research for a sustainable future. We strongly encourage and support research activities that contribute to the sustainable transformation of society and climate protection, and specifically promote digitalization and the scaling of developed solutions, taking into account ecological, political and social implications. To this end, we combine the drive and entrepreneurial spirit of our students and employees with an energy- and resource-conserving way of working. We promote inter- and transdisciplinary as well as international cooperation with partners from science, business, politics and society in order to strengthen the impact and innovative power of TUM.

Campus Operations and Resource Management



Learning, teaching, researching and working in a sustainable environment. Through our own transformation, we pursue the goal of making TUM a role model for shaping a sustainable and resilient society with responsible and

Governance and Community



Responsible leadership and collaborative design. Supported by a shared vision for sustainability and climate action and by the motivation and empowerment of students and

Communication and Global Engagement



Open university and community impact: Regional. National. International. Students, employees, alumnae/alumni, partners from science and industry, political decision-makers and the



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Entrepreneurship and Innovation

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data-based campus operations and resource management. Therefore, we define our limits of growth and work within a framework of sustainable human resources and financial policies based on resource-efficient use of funds and effective risk management. We create a healthy and digitally supported working environment with high appreciation for the diversity of our staff and students. We empower members of the TUM family to make their own contributions to a sustainable future and integrate new scientific findings and technical solutions at our TUM campuses. This is how we meet our challenges in greenhouse gas emissions, mobility, energy and resource management, biodiversity, equality, diversity, inclusion, and ensuring healthy study and working conditions.

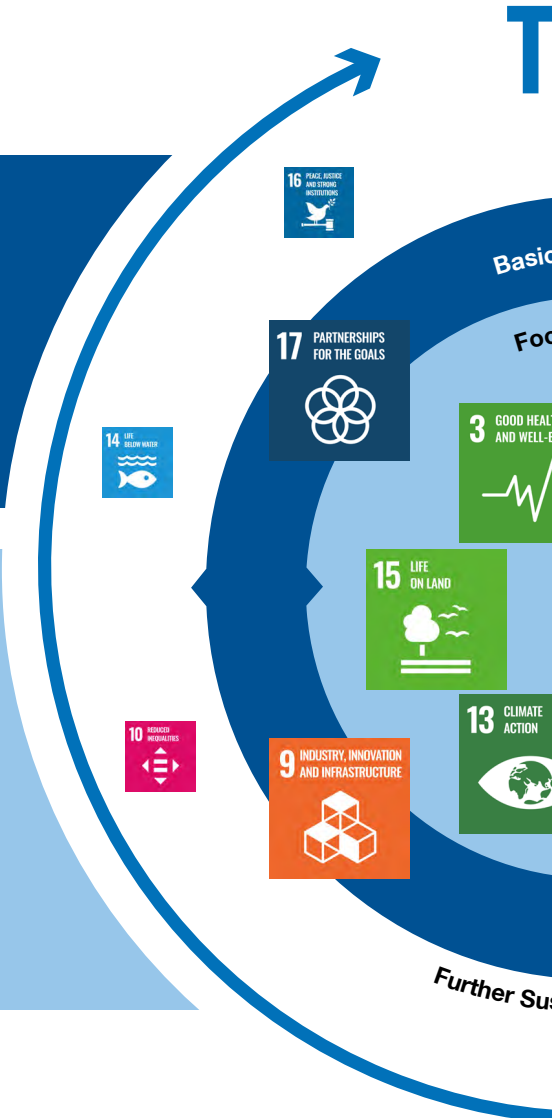
employees at all levels of the university, we want to enable the university community to shape sustainable transformation. We want to motivate members of the university community to participate: on the one hand by strategically anchoring the sustainability strategy in the TUM Board of Management, and on the other hand by means of participatory design processes with clear responsibilities. By means of university-wide communication and engagement formats, needs are addressed bottom-up and the progress in all action fields of the strategy becomes transparent.

many people in the regions where TUM and its locations are firmly rooted have an interest in TUM's contributions to shaping a sustainable transformation of society. Through transparent and self-critical communication, we want to create awareness and take a proactive role in this transformation. We are part of a global community that aligns its actions with the United Nations Sustainable Development Goals and is aware of the specific challenges and opportunities of its own scientific and social environment. To increase our own impact, we combine our research and teaching agenda with entrepreneurial drive to combat climate change and pollution, poverty and inequality, and lack of access to healthcare and education. We are intensifying our collaboration with partners in the Global South to jointly develop solutions and implement best practices.

Our main focus and basic principles

Basic Principles	
SDG 4	Quality Education
SDG 5	Gender Equality
SDG 9	Industry, Innovation and Infrastructure
SDG 17	Partnerships for the Goals

Focus Areas	
SDG 3	Good Health and Well-Being
SDG 7	Affordable and Clean Energy
SDG 11	Sustainable Cities and Communities
SDG 12	Responsible Consumption and Production
SDG 13	Climate Action
SDG 15	Life on Land



Since 2015, the 17 Sustainable Development Goals (SDGs) of the United Nations have defined the global agenda for sustainable development in ecological, economic and social terms. The TUM SUSTAINABLE FUTURES STRATEGY 2030 draws its strength from focusing on six thematic priorities: **Health** (see SDG 3), **Energy** (see SDG 7), **Urban Systems** (see SDG 11), **Circular Economy** (see SDG 12), **Climate Protection** (see SDG 13), **Biodiversity** (see SDG 15). TUM can apply its interdisciplinary strengths in research, teaching and innovation to build on these SDGs without neglecting activities in other thematic areas.

Four further fields show us **basic principles** that guide the success of TUM throughout the university. These include our aspiration to empower students, employees, professionals and executives as shapers of a sustainable future through **education** (see SDG 4) at the highest international level, and to make the best possible use of our talent pool through **gender equality** (see SDG 5) and a culture of diversity and inclusion (TUM Gender Equality Plan). As an entrepreneurial university, TUM translates new knowledge into market-oriented **innovation processes**, for example through spin-offs, seeks **collaborative** partnerships



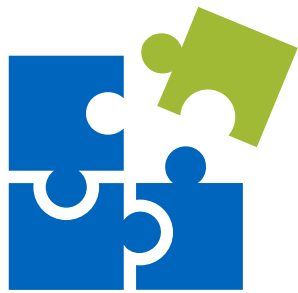
Further Sustainability Topics	
SDG 1	No Poverty
SDG 2	Zero Hunger
SDG 6	Clean Water and Sanitation
SDG 8	Decent Work and Economic Growth
SDG 10	Reduced Inequalities
SDG 14	Life below Water
SDG 16	Peace, Justice and Strong Institutions

with companies (see SDG 9) and expands its **strategic alliances** (see SDG 17) with regional, national and international partners.

Across the SDGs, TUM will contribute to the adaptation of **policy and regulatory frameworks** and to increasing **societal acceptance** of sustainable processes, systems and technologies, products and services in Germany and accelerate successful **practical implementation** and **market scaling**.

Scope of the TUM SUSTAINABLE FUTURES STRATEGY 2030

The sustainability strategy integrates the competencies of the entire TUM family and unfolds its power through its university-wide scope, from the Schools and Academic Departments, Integrative Research Institutes, Corporate Research Centers, TUM Mission Networks and Technology Core Facilities to the TUM Graduate School, the TUM IL³ and the TUM Institute for Advanced Study to the Central Administration, the Functional Units and Central Service Institutions. Students, employees, alumnae/alumni and partners of TUM are invited to participate in its dynamic design and future-oriented development.



Research

Excellent research for a sustainable future



With our research on the global challenges related to raw materials, climate, the environment, energy, infrastructure, mobility and communication, as well as securing biodiversity, nutrition and health, we want to shape a healthy and livable future for the next generations. We encourage and support targeted research activities that contribute to the sustainable transformation of society in line with the SDGs and therefore address sustainability issues in our strategic research focus areas.

We focus, for example, on a better understanding of important processes in the climate system of our planet, on the use of renewable raw materials and their chemical, energetic and material recycling, the development of low-carbon, energy- and resource-efficient technologies, the redesign of economic and business models (bioeconomy, circular economy) as well as political and legal framework conditions, up to personalized approaches in health promotion and prevention. For the scalable realization of sustainable solutions in the various fields of application, we are vigorously driving forward digitalization across the university.

To this end, we combine the incredible curiosity, motivation and innovative power as well as the unique entrepreneurial spirit of our staff and students with the scientific excellence of our Schools, Integrative Research Institutes, Corporate Research Centers and TUM Mission Networks to generate new insights and create abilities that enable the transition towards a sustainable society. To address the complexity and urgency of the challenges, we promote inter- and transdisciplinary as well as international collaboration with partners from science, business, politics and society, thus strengthening the feasibility of the solutions developed and the innovative power of TUM.

We understand sustainability as a guiding principle of our research culture. We embrace the motivation and innovative strength of our students and staff to establish a water-, energy- and resource-saving way of working and anchor sustainable research in our self-perception and daily practice. Therefore, we provide our scientists with further training opportunities.

Expand excellent research activities related to sustainability and climate protection

Measures

Focus our hiring strategy and funding activities on strengthening strategic research with respect to sustainability and climate protection in line with the SDGs

Consider the potential sustainability impact of TUM-internal programs for the support of research projects

Consider sustainability (SDGs) in fellowship calls of the TUM Institute for Advanced Study (TUM-IAS)

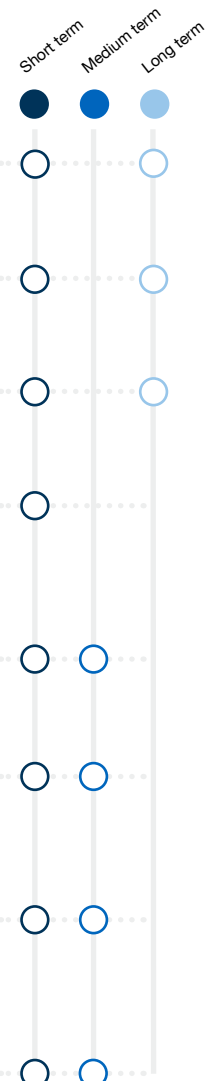
Promote interdisciplinary/transdisciplinary cooperative research (e.g. TUM Mission Networks, TUM Innovation Networks, Munich Design Institute) for innovation-based design of a sustainable societal transformation

Expand/intensify international cooperation on research on sustainability issues, e.g. establish a European research network on circular economy

Expand strategic alliances and living labs with partners from science, industry, politics and society in order to accelerate the practical implementation of research results

Identify and reduce communication and cooperation barriers between campuses that hinder practical implementation of research results; scientific support to create political and regulatory framework conditions

Continuously develop sustainability-relevant performance indicators in research and integrate them into a research information system



Indicators

- Number of publications related to sustainability and climate protection; (i) with authors from different disciplines, (ii) together with authors from partner institutions
- Number of grants, prizes and awards (national, international) for outstanding scientific work related to sustainability and climate protection
- Number of TUM scientists in projects with explicit reference to sustainability and climate protection
- Number of TUM scientists with an advisory function on the topic of sustainability in science, business, politics and society
- Research funding (public/private) for research projects related to sustainability and climate protection

Develop a sustainable work culture in research

Measures

	Short term	Medium term	Long term
Integrate sustainable resource management in the TUM Research Code of Conduct	●		
Expand the <i>open science culture</i> for publications and data	○		
Raise awareness and appreciation among employees for, and further train them in, an efficient use of resources by integrating principles of sustainable scientific work into the lifelong learning offers for employees: <ul style="list-style-type: none"> • PhD students (TUM Graduate School) • Postdocs (TUM ForTe / TUM Talent Factory) • Scientific staff (TUM IL³: Researcher Track of CareerDesign@TUM; effective science management) • Science Managers (TUM IL³: Science Manager Track of Career Design@TUM) • Professors (Faculty@TUM, TUM TT Academy) 	○	○	
Expand the sharing culture for the TUM-wide joint use of resources (equipment, infrastructure, workshops, etc.)	○	○	
Develop and evaluate suitable indicators to measure progress towards the achievement of goals.		○	

Indicator(s)

Indicators for this goal still need to be developed (see F2e).



Education and Lifelong Learning

Excellent education for responsible
talents for change



We act responsibly for the next generations, proactively address the needs of our students and our partners and make the topic of sustainability a guiding principle of TUM's educational mandate. We do this because in science, business, politics and civil society, competencies for solving sustainability-related issues and the associated digital skills will increase the competitive strength of our graduates in the global working world.

We motivate and encourage students, employees, alumnae/alumni and external professionals and executives to develop their own understanding of sustainability. We empower them to use their knowledge and competencies to make data- and evidence-based responsible decisions, to convince others, to develop effective measures for a healthy future and to take an active role in shaping the sustainable transformation of society. Therefore, we teach key competencies in sustainability and digitalization and develop interdisciplinary courses for students and training modules for employees and external professionals and executives.

We understand sustainability to be a guiding principle of our teaching culture. We therefore qualify our lecturers through training courses on the sustainable design of the teaching and learning environment.

Enable students to shape society in a sustainable way

Measures

	Short term	Medium term	Long term
Integrate the topic of sustainability and digitalization into the guiding questions of the QM circles of study programs	●	○	○
Integrate sustainability and digitalization competencies into the Teaching Constitution	○	●	○
Define relevant subject-specific sustainability and digitalization competencies in qualification profiles; list competencies in the degree program documentations	○	○	○
Give special consideration to the integration of sustainability aspects in all teacher training programs	○	●	○
Increased use of practical examples related to sustainability in teaching	○	○	○
Implement inter- and transdisciplinary projects with a special focus on sustainability challenges (project weeks, project studies, TUM: Junge Akademie)	○	○	○
Establish Plug-in Modules with a focus on acquiring sustainability competencies (Microcredentials Sustainability)	○	○	○
Expand and further develop the “TUM Sustainable Living Labs”	○	○	○
Expand the offers within the framework of the SDG Campus Network	○	○	○

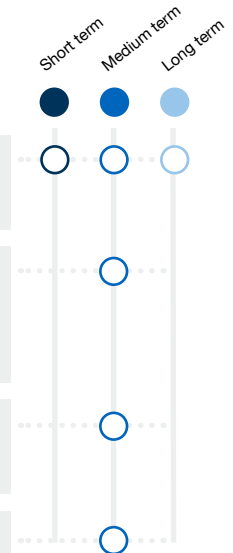
Indicators

- Qualitative documentation and review of the qualification profiles of the study programs within the framework of quality management (QM). In the longer term, the aim is to develop impact indicators.
- Number of Professional Profiles that have integrated competencies on sustainability and climate protection into curricula, Plug-in Modules or Project Weeks.
- Number of Plug-in Modules focusing on the acquisition of sustainability competencies and number of offerings within the SDG Campus network.

Establish a culture of sustainability through continuing education for employees, alumnae/ alumni, and external professionals and executives

Measures

Develop and implement lifelong learning courses on „Sustainability in Management“ for senior TUM staff (TUM IL ³)	●	●	●
Develop and implement an online lifelong learning program on the topic of “Sustainability and Climate Protection” for all TUM employees, supplemented by classroom formats (TUM IL ³)	○	○	○
Extend the qualification offerings for lecturers to include aspects of resource-efficient teaching and further training (ProLehre, TUM IL ³)		○	
Expand the portfolio of lifelong learning programs at the interface of sustainable technologies and management/leadership for alumnae/alumni and external professionals and executives (TUM IL ³)		○	



Indicator(s)

- Number of internal training courses with a partial or comprehensive sustainability focus
- Number of employees participating in internal training programs with a sustainability focus
- Number of lifelong learning programs of the TUM IL³ with sustainability relevance
- Number of external professionals and executives who participate in TUM IL³'s further qualification programs with a sustainability focus
- Number of TUM alumnae/alumni who engage in the topic of sustainability in senior positions in science, business, politics or society

TUM ID



Entrepreneurship and Innovation

Excellent founders for sustainable impact



A successful sustainable transformation of society requires that we feed the findings and technologies from research efficiently and in a scalable way into market-oriented innovation processes. The core areas in need of innovation include, for example, new energy storage systems, sustainable mobility, greenhouse gas-neutral fuels with high energy density, regenerative agriculture and forestry, building materials with reduced greenhouse gas emissions, basic and active chemical substances from renewable raw materials, bio-inspired and circular industrial processes and much more.

In our commitment to future generations, we are establishing sustainability as a central driver for sustainable start-up initiatives. We support and empower our founders to use their entrepreneurial spirit to accelerate sustainable transformation and to combine economic success with ecological and social responsibility, as “TUM Sustainable Impact Start-ups”, through new technologies and products, innovative systems and services, and creative business models.

Fostering the next generation of founders through our TUM Venture Labs is just one of the many ways TUM supports the development of sustainable businesses. Flagship programs such as Think.Make.Start, hackaTUM or the TUM Entrepreneurial Masterclass already offer our students unique opportunities to feed innovative ideas into marketable innovation processes. We contribute to the adaptation of political and regulatory frameworks that support successful market implementation and support the acquisition of capital together with UnternehmerTUM.

Implement sustainability as a guiding principle of the entrepreneurship culture

Measures

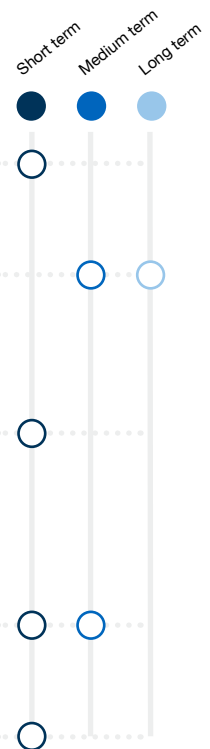
Implement exchange and collaboration formats between TUM, UnternehmerTUM and the TUM Venture Labs on sustainability-focused entrepreneurship

Establish partnerships (TUM Venture Labs, UnternehmerTUM, Social Entrepreneurship Academy, companies) to develop a “Sustainable Entrepreneurship Ecosystem” in the Munich metropolitan region

Raise awareness of sustainability and climate protection among founding teams (e.g. TUM Sustainability Day, TUM Entrepreneurship Day, TUM Venture Labs GreenTech Award, entrepreneurial education formats, workshops, TUM Green Offices)

Create visibility and appreciation of the successes of sustainable entrepreneurship through a strategic communication campaign

Focus TUM entrepreneurship activities, the TUM Venture Labs offers and the TUM Entrepreneurial Masterclass on the ideas and start-up initiatives whose technologies, services or business models have a high potential for a positive influence on the sustainable transformation of society



Indicators

- Number of formats and events offered to raise awareness of sustainable entrepreneurship
- Number of people and founding teams reached by these events
- Number and share of start-up projects with a focus on sustainability / climate action
- Number of entrepreneurship cooperations with external partners as a contribution to the development of a “Munich Sustainable Entrepreneurship Ecosystem”

Develop sustainability competences for entrepreneurship employees and (potential) founders

Measures

	Short term	Medium term	Long term
Train-the-trainer program for sustainability qualification of TUM entrepreneurship employees, start-up advisors of TUM ForTe and employees of the TUM Venture Labs for the effective integration of sustainability as a central guiding principle in advising start-up teams	●		
Integrate the sustainability reference in existing entrepreneurship qualification formats as well as in the Entrepreneurship Advisor Track (TUM IL ³ : CareerDesign@TUM)	○	○	
Develop and implement new training formats for potential founders and founders interested in “Sustainable Entrepreneurship” and “Social Entrepreneurship”	○	○	
Create a professorship for Sustainable Entrepreneurship and Scalability		○	
Develop support measures to increase the proportion of female entrepreneurs (TUM Women Entrepreneurs Program)		○	

Indicators

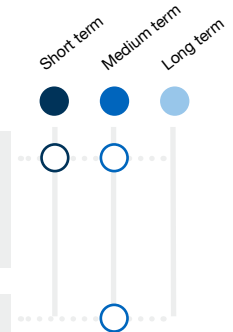
- Number and share of employees in the area of entrepreneurship who participated in measures to promote sustainability competences
- Number and share of people interested in setting up a business and founders who have taken part in measures to promote sustainability skills
- Number of students who have taken part in courses on entrepreneurship and sustainability
- Number of female founders

Increase the number of TUM start-ups contributing to the sustainable transformation of society

Measures

Establish a TUM Venture Lab with a focus on Sustainability and Circular Economy for the specific support and promotion of sustainable technologies and business models

Develop and apply standardized methods for the sustainability assessment of start-ups



Indicators

- Number and share of TUM spin-offs with a sustainability focus (“sustainable impact start-ups”)
- Number of annual investments in TUM sustainable impact start-ups
- Total venture capital raised by TUM sustainable impact start-ups





Campus Operations and Resource Management

Learning, teaching, researching and working in
a sustainable environment



Through transformation by its own example, TUM is pursuing the goal of significantly reducing its energy consumption and greenhouse gas emissions with responsible and data-based campus operations and resource management. Therefore, we also need to define our own limits of growth, e.g. maximum number of students and employees in the qualification phase. In this way, we become a role model for the design of a sustainable, healthy and resilient society.

We create a healthy and digitally supported working environment in which diversity and the appreciation of our employees and our students have high priority. In times of rapidly changing requirements and, as a result, expanded competence profiles, we promote the further training of our employees and the long-term securing of staff in all system-critical areas. Therefore, we are advancing digitalization of work processes in order to efficiently bundle resources in times of increasing shortage of skilled workers. We empower the members of the TUM family to make their own contributions to a sustainable future and integrate new scientific findings and technical solutions in the sense of “Living Labs” at the TUM locations. This is how we meet our challenges in greenhouse gas emissions, energy consumption, mobility, resource management, biodiversity, equality and inclusion, and ensuring sustainable study and working conditions. We define our limits of growth and work within the framework of a sustainable human resources and financial policy based on resource-efficient use of funds and effective risk management.

With this commitment, which is anchored in the TUM mission statement, we not only want to make our students and employees aware of the necessary changes, but also enable them to become responsible shapers of sustainable change.



Climate neutrality in terms of energy consumption by 2028

Measures

Data collection / aggregation and preparation of a greenhouse gas inventory in 2023 with annual updates (Scopes 1, 2 and 3)³:

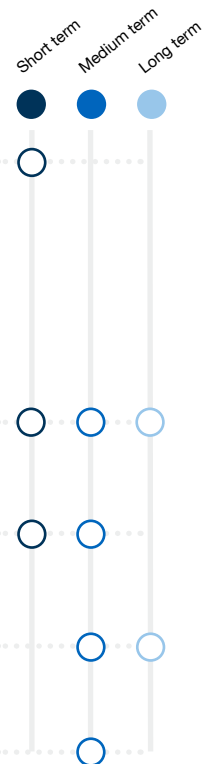
- (a) Record the *status quo*
- (b) Identify the most important reduction potentials
- (c) Monitor progress

Continuously identify and initiate measures that can reduce energy consumption and greenhouse gas emissions in the short term

Create and establish a climate action plan and climate management with targets and concrete measures by 2024

Implement the measures of the climate action plan within the framework of the legal and financial possibilities

Install photovoltaic systems on all TUM roofs within the scope of technical and legal possibilities



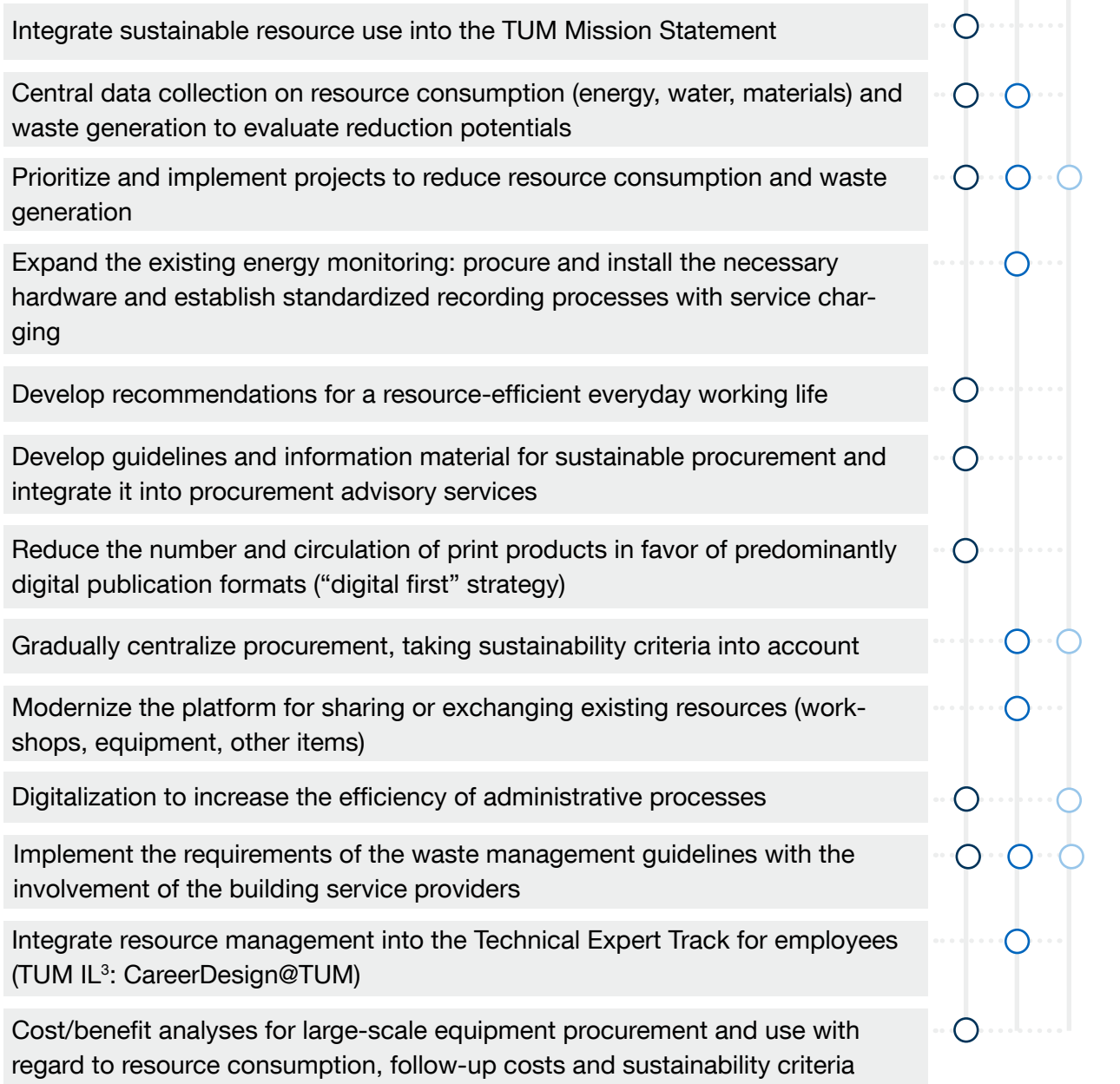
Indicators

- Energy-related greenhouse gas emissions
- Installed capacity of photovoltaic systems

³ According to the standard of the Greenhouse Gas Protocol, which as of 10/2022 is the basis for developing a greenhouse gas accounting framework by the Bavarian Network for Sustainability in Higher Education. Based on currently available data, a reliable calculation of Scope 3 emissions will not be possible before 2024.

Reduce energy and resource consumption and increase energy and resource efficiency

Measures



Indicators

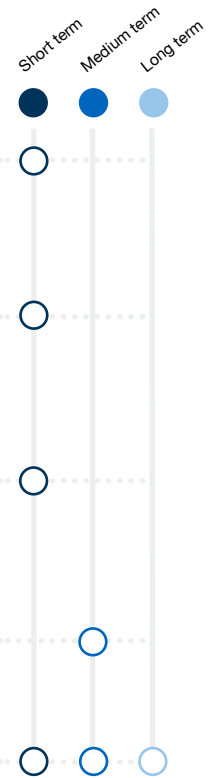
- Total energy consumption
- Resource consumption: (i) water consumption (drinking water, process water), (ii) number, circulation and share of printed publication formats, (iii) other materials to be specified
- Waste: (i) residual waste, (ii) recycling rate



Significantly reduce mobility-related greenhouse gas emissions

Measures

- Consider mobility in the greenhouse gas balance (scope 3) with annual updates as well as in the climate protection concept (business trips, commuting, studying abroad)
- Expand the *Thinking Green* initiative into a communication campaign to reduce business air travel and raise awareness of more sustainable travel with a low CO₂ footprint for staff and students on international trips
- Develop a TUM Travel Policy to reduce travel-related greenhouse gas emissions, including a concept to pay CO₂ compensation for business trips into a TUM Sustainability Fund
- Establish a mobility management to implement targeted projects for more sustainable commuting mobility (in coordination with campus partners)
- Increase low-emission, on-campus mobility (walking, cycling, electrified transport systems)



Indicators

- Greenhouse gas emissions from business travel
- Greenhouse gas emissions due to outgoing students travelling to and from their places of study
- Offsetting costs for greenhouse gas emissions from international business flights
- Greenhouse gas emissions due to commuting
- Modal split in commuting (share of trips as well as distances by mode of transport)
- Mobility infrastructure on campus: (i) number of installed and planned charging points for e-vehicles, (ii) number of bicycle parking spaces, (iii) further indicators still to be developed
- Number and share of electric vehicles in the TUM fleet
- Mobility-CO₂-footprint of TUM

Increase quality of stay and biodiversity of the TUM campuses and prioritize sustainability in construction

Measures

	Short term	Medium term	Long term
Prioritize sustainability criteria in the planning and implementation of projects for the further development of the TUM campuses	●	○	○
Prioritize sustainability in new construction and refurbishment projects (incl. certifications); e.g. increased energy efficiency, reduced energy consumption, reduced use of grey energy	○	○	○
Re-use or new use of old building structures after energetic renovation with sustainable methods and building materials		○	
Introduce internal service charges for the use of space; space- and quality-dependent cost allocation to schools, institutes and other facilities		○	
Evaluate the possibilities for efficient energy use concepts	○	○	○
Qualitative improvement of outdoor areas with regard to the quality of stay, taking into account climate adaptation		○	○
Increase biodiversity on campus through habitat creation and continued biodiversity enhancing practices	○	○	○

Indicators

- Number of buildings certified according to DGNB standard
 - Proportion of ecologically valuable green areas in the total green area
- Further indicators for this goal still need to be developed

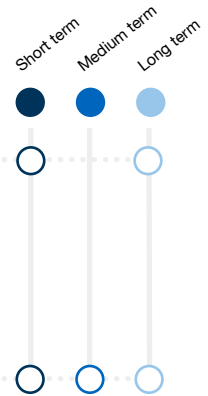


Sustainable food supply for students and employees

Measures

Cooperate with the responsible student unions (“Studierendenwerke”) for sustainable food supply for students and employees; e.g. reduction of the greenhouse gas footprint of products, increase in the share of plant-based products and with quality labels (organic, fairtrade, regional), reduction of waste

Further establish sustainability criteria for the tendering of gastronomic areas beyond the student unions



Indicator(s)

Indicators for this goal still need to be developed.





Sustainably promote a culture of appreciation, respect, and responsibility in the university community

Measures



Indicators

- Satisfaction and perceived diversity and appreciation culture of employees and students based on regular monitoring
- Average duration of employment contracts (by employee group)
- Number and share of employees in further qualification programs at TUM

Further indicators, in particular on the diversity of the university community, still need to be developed



Governance and University Community

Responsible leadership and collaborative
design



Supported by a shared vision for sustainability and climate protection as well as by the motivation and empowerment of students and employees at all levels of TUM, we want to enable the university community to shape its own sustainable transformation. We motivate members of the university community to participate by anchoring responsibilities for implementing the TUM SUSTAINABLE FUTURES STRATEGY 2030 in the university's Board of Management and the School Executive Boards on the one hand, and through participatory design processes with clear responsibilities on the other.

By means of university-wide, transparent communication and engagement formats, the progress development in all action fields of the strategy shall be communicated. In addition, we want to take up suggestions, ideas and needs of employees and students through bottom-up processes.



Incorporate sustainability criteria into governance and decision-making processes

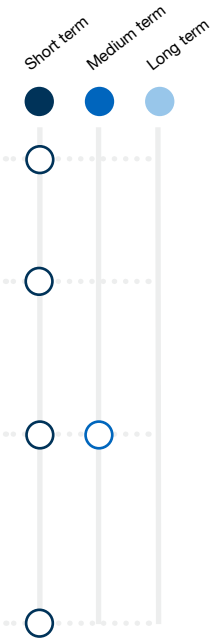
Measures

Anchor responsibilities for sustainability in the TUM Board of Management as well as through a Vice Dean for each TUM School

Establish a TUM Sustainability Board as an expert body to monitor the implementation and success of the TUM SUSTAINABLE FUTURES STRATEGY 2030

Expand the TUM Sustainability Office as a central coordination point to operationally implement and monitor measures, further develop the TUM SUSTAINABLE FUTURES STRATEGY 2030 as well as to create the biannual TUM Sustainability Futures Report

Strengthen sustainability-relevant research and teaching through TUM's appointment strategy



Indicators

- Sustainability anchored in the TUM Board of Management as well as in the TUM Schools (Vice Dean)
- Number and share of appointments with sustainability relevance
- Regular publication of a progress report (TUM Sustainability Futures Report)



Community engagement of the TUM family for sustainability and climate action

Measures

	Short term	Medium term	Long term
Support sustainability-related student initiatives and the Sustainability Student Initiatives Forum	○		
Further develop the TUM Forum Sustainability under the leadership of the TUM Senior Excellence Faculty	○		
Strengthen the topic of sustainability in formats for pupils (TUMKolleg, ExploreTUM; Student Research Center)	○	○	
Establish a “TUM Sustainable Communities Network”:	○	○	
(i) to support students’, employees’ and alumnae/alumni’s own initiatives for sustainability projects and to share best practices within the university community;			
(ii) Recognize special achievements with the award “TUM Sustainability Champion”			
Establish TUM Green Offices at the four main locations in Munich, Garching, Weihenstephan and Straubing	○	○	
Continue the TUM Sustainability Award to recognize outstanding achievements in sustainability	○	○	○
Involve alumnae/alumni and IAS focus groups with sustainability expertise as knowledge bearers and ambassadors within the TUM community			○

Indicators

- Number of pupils in sustainability-related projects
- Number and proportion of accredited student initiatives with an explicit reference to sustainability
- Number of members in the “TUM Sustainable Communities Network” and number of *on campus sustainability projects*
- Number of TUM Green Offices and employees
- Number of alumnae/alumni as sustainability ambassadors



TUM Green Offices

The student-run TUM Green Offices serve as a physical contact point for sustainability impulses and their practical project implementation on campus. They promote a more sustainable way of life for all stakeholders on campus. Through them, our students become shapers of sustainable change at the university.



The TUM Green Offices

- provide information about sustainability and raise awareness of more sustainable ways of working and living on campus;
- promote education for sustainable development through talks, lecture series, workshops and excursions;
- support campus development on the way to becoming a living lab for sustainability by linking research and education.

The first TUM Green Office was established in 2018 at the TUM Campus Straubing for Biotechnology and Sustainability. This was followed in October 2021 by the TUM Green Office at the Weihenstephan Campus as a cooperation project between the TUM School of Life Sciences and the TUM Sustainability Office. Further TUM Green Offices are planned at the Garching campus and at the Munich campus.

Intensify TUM's internal communication on sustainability

Measures

	Short term	Medium term	Long term
Use existing and develop new communication channels; e.g. Sustainability Newsletter, TUM Green Office Social Media	●	○	○
Establish a network of ambassadors (alumnae/alumni) and multipliers in TUM Schools (students, employees); e.g. TUM Sustainable Communities Network, TUM Sustainability Day, TUM Virtual Campus	○	○	○
Promote internal knowledge transfer for sustainable teaching through TUM-wide plug-in modules and project weeks and their marketing	○	○	○
Promote internal knowledge transfer in research through the explicit integration of sustainability in the upcoming research information system	○	○	○
Develop a TUM Sustainability Dashboard for the website to communicate up-to-date numbers and developments	○	○	○

Indicators

- Number of participants in TUM sustainability events
- Reach of new sustainability-focused communication channels/formats
- Number of ambassadors and multipliers for sustainability
- Publication of up-to-date sustainability figures via the TUM Sustainability Dashboard



Communication and Global Engagement

**Open university and community impact:
Regional. National. International.**



Curious students, dedicated employees, widely experienced alumnae/alumni, strong partners from science and industry, political decision-makers, and the diverse people in the regions where TUM is firmly rooted with its locations in Germany – all these have an interest in the sustainability of our university. And they have high expectations of the practice-oriented implementation of what we research and teach, as well as of the way we run our university locations. We want to join forces and shape the sustainable transformation of our society together.

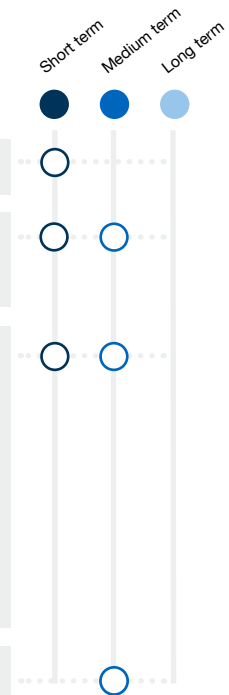
Through self-critical reflection and transparent communication with society, we want to take a proactive role and a creative function in the sustainability discourse and create awareness for accelerating the change towards sustainability.

As part of a global community that aligns its actions with the SDGs, we combine our research and teaching agenda with responsible action and entrepreneurial drive to tackle climate change and pollution, lack of access to healthcare and education, and poverty and inequality. To this end, we are strengthening our strategic flagship partnerships and the EuroTech University Alliance and are expanding our collaboration with partners in the Global South to jointly develop solutions and implement best practices.

Establish external sustainability communication

Measures

- Promote an *open science culture*; e.g. open access publications, open data
- Develop and implement a consistent TUM communication strategy (incl. prioritization criteria) for sustainability issues
- Introduce *public engagement* formats with a focus on sustainability to strengthen our social discourse, involving external partners from science, business, politics and society; e.g. through
 - (i) the TUM Sustainability Day;
 - (ii) Proactive invitation of citizens to actively participate in the “TUM Sustainable Community Network”
- Empower external decision-makers to make evidence-based sustainable decisions, e.g. through
 - (i) White Papers of the TUM Think Tank
 - (ii) Lifelong learning programs for external professionals and executives (TUM IL³)



Indicators

- Number and share of communication content with sustainability relevance per communication channel; additional differentiation by reach
- Number of formats/events and participants for exchange with society, politics and business on sustainability issues



Strategically expand partnerships

Measures

	Short term	Medium term	Long term
Active participation in the future Bavarian Center for Higher Education and Sustainability (BayZeN)	●	○	
Increase consideration of sustainability topics in existing and new partnerships with universities, e.g. EuroTech Universities Alliance, EuroTeQ Initiative, International Sustainable Campus Network, SDG Campus Network	○	○	
Increase cooperation with cities/municipalities to increase the sustainability of the TUM locations		○	
Expand or establish new alliances with partners from the Global South with a focus on the UN Sustainable Development Goals; e.g. TUM SEED Center, TUM.Africa Initiative		○	
Increasingly involve international students (especially from the Global South), alumnae/alumni and business partners in TUM sustainability projects with the active participation of the TUM liaison offices in Asia, North and Latin America and Europe		○	

Indicators

- Number of sustainability-related events held jointly with partner universities and number of participants
- Number of cooperation projects with partners in the Global South
- Number of alumnae/alumni in sustainability projects at TUM
- Number of sustainability-related initiatives of the TUM liaison offices

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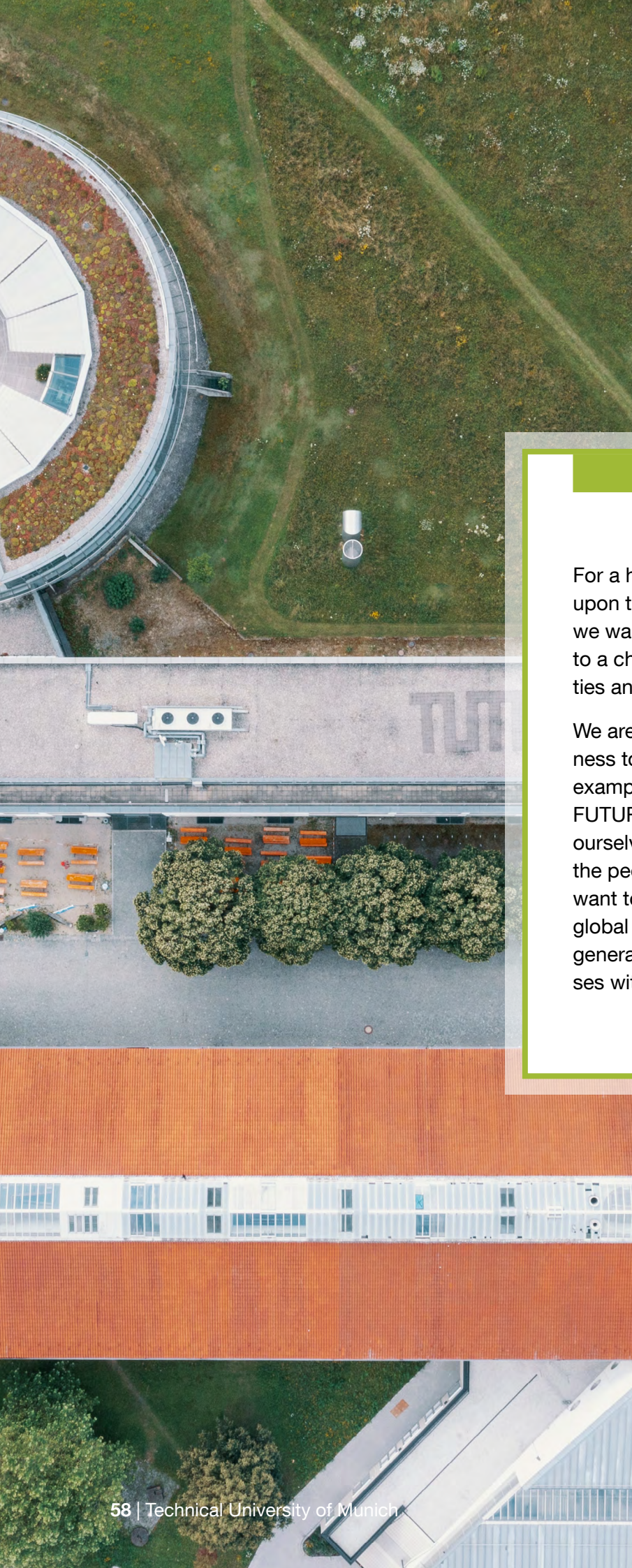
p. 46 / 47: Andreas Heddergott / TUM

p. 50 / 51: Andreas Heddergott / TUM

p. 52 / 53: Christian Schunk / TUM

p. 58: Ronald Zöllner / ediundsepp Gestaltungsgesellschaft mbH / TUM

p. 59: Astrid Eckert / TUM and Andreas Heddergott / TUM



For a healthy tomorrow, we are all called upon to act responsibly today. Together we want to make decisive contributions to a change towards sustainable societies and climate protection.

We are once again showing our willingness to change and are setting a good example: with the TUM SUSTAINABLE FUTURES STRATEGY 2030, we have set ourselves ambitious goals, are involving the people of our home regions and want to share our progress with the global community. We want our future generations to experience these successes with confidence.

